

### Abstract

The present invention relates to a method for the detection of a nucleotide sequence in a nucleic acid molecule by means of pre-determined probes of different mass by means of matrix-assisted laser desorption/ionization mass spectrometry. One of the advantages of the method of the invention is the simultaneous characterization of a variety of unknown nucleic acid molecules by a set of different probes. Furthermore, this invention relates to a kit containing the probes and/or a probe support, optionally with nucleic acid molecules bound thereto.